Northwest Fisheries Science Center

Annual Guidance Memorandum
Fiscal Year 2017

October 2016

U.S. Department of Commerce
National Oceanic and Atmospheric Association
National Marine Fisheries Service
Northwest Fisheries Science Center

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Annual Guidance Memorandum for Fiscal Year (FY) 17

Purpose

This Annual Guidance Memo (AGM) outlines our priorities in Fiscal Year 2017 (FY17) to implement our 2013 strategic plan using scientific merit and management need as the primary factors in prioritizing our future activities. It is our responsibility to allocate our resources in a way that meets the nation's and region's highest scientific and management needs following congressional and agency direction. This AGM outlines how we will accomplish this in FY17 and helps position the Center for future (1–2 years) challenges and opportunities.

> "We are the nation's Environmental Intelligence Agency. We provide timely, actionable and reliable information, grounded in authoritative science that is oriented toward real-world questions confronting families, businesses, communities, and nations."
>
> -Dr. Sullivan

Agency and Regional Context

In the last two years, we have experienced anomalously warm water conditions in the Pacific Ocean, which some have called a "climate stress test" on the West Coast, and which others consider a dress rehearsal for conditions likely under climate change. Communities across the country are becoming more vulnerable to severe events. To limit the impacts of these events, NOAA provides the environmental intelligence that communities need to ensure preparedness and resilience, allowing communities, economic sectors, and individuals to avoid, minimize or mitigate impacts and recover from events more quickly. To help meet these needs, NOAA Fisheries will continue to pursue ecosystem-based management in the delivery of information and services under our responsibility. It is an integrated approach that incorporates the entire ecosystem, including humans, into resource management decisions, responds to a changing marine climate, and is guided by an adaptive management approach.

The priorities for NOAA Fisheries in FY17 continue to emphasize our core mandates to sustain the Nation's marine fisheries[1] and to conserve and recover protected species. All other activities and programs serve these two core responsibilities. To meet its stewardship goals, NOAA Fisheries needs

[1] The term "fisheries" encompasses wild capture, marine aquaculture, and recreational fishing.

high-quality science that meets the needs of its managers and stakeholders in a timely fashion. In FY17, the main science initiatives for NOAA Fisheries include: improved climate advice through the implementation of regional action plans implementing the agency's Climate Science Strategy, increased understanding of ecosystem processes leading to new tools to implement an ecosystem-based fisheries management policy and roadmap, development of science-based tools to support sustainable domestic marine aquaculture, and continued improvement of fisheries stock assessment methods under the Next Generation Stock Assessment Framework. NOAA Fisheries has also placed greater focus on key protected species, including Southern Resident killer whales, through its "Species in the Spotlight" initiative.

Our ongoing scientific program reviews and recent peer reviews of our surveys, groundfish stock assessments, protected species, and ecosystem science also influence selection of annual priorities for the NWFSC. In FY16, we completed reviews of science supporting an ecosystem approach to management and participated in the national review of aquaculture science. Both reviews were positive and provided constructive feedback and recommendations for future directions. The ecosystem science panel's report was particularly positive about the quality of the science and the extent of NWFSC's national and international leadership. The aquaculture review panel was impressed with NWFSC research and noted its high value to the marine aquaculture industry in the Pacific Northwest.

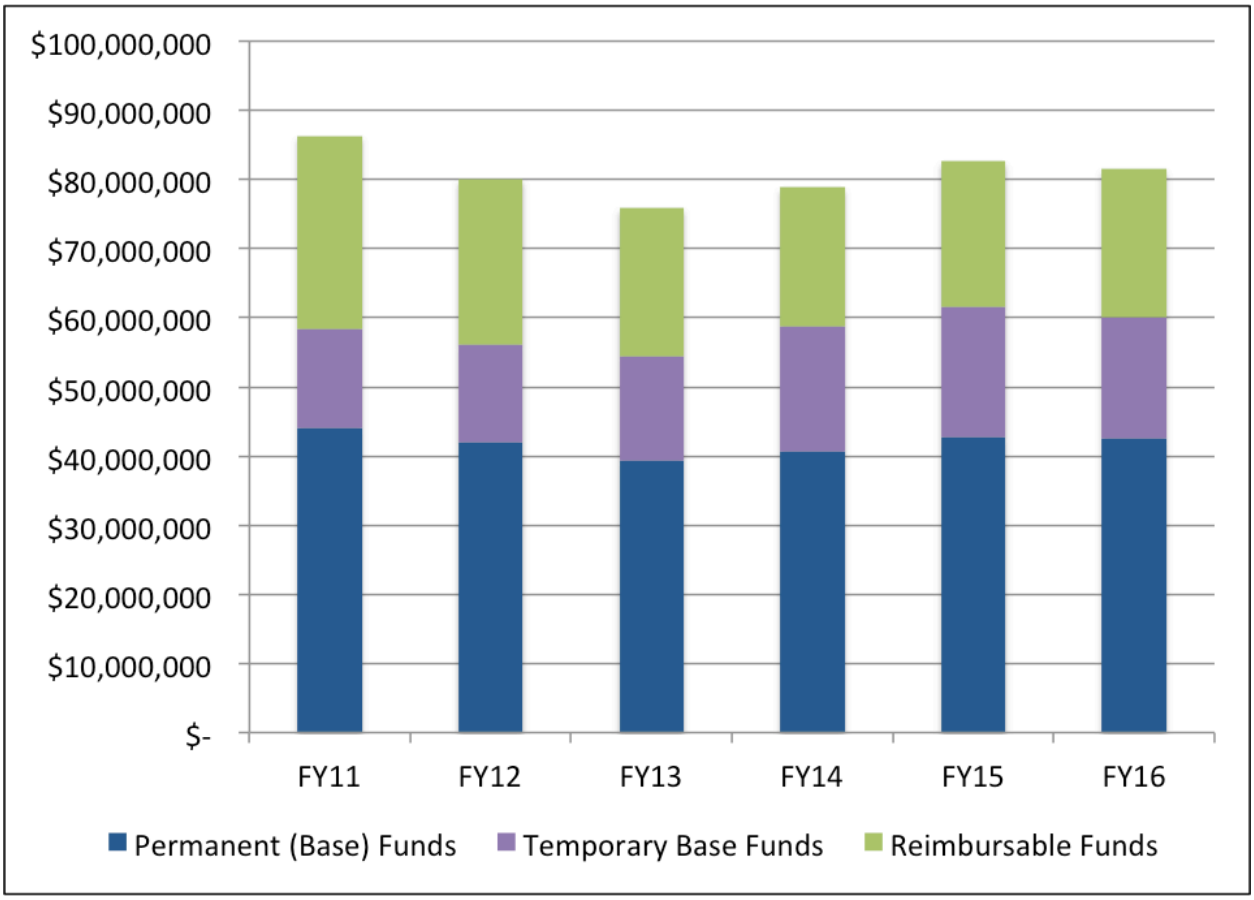
The Pacific Northwest continues to experience ecosystem-level effects from the remnants of the anomalous warming in the eastern North Pacific ("the blob") and a subsequent significant El Niño. El Niño conditions have subsided, but we are seeing warmer-than-normal sea surface temperatures again. The West Coast will continue to experience substantive climate variability, and is likely experiencing some effects of ocean acidification and increased temperature. There is increased concern about a significant rise in large whale entanglements with fishing gear along the West Coast, with managers in the regional office urgently seeking scientific support on mitigation options. The prospects for below-average salmon returns continue. In subregions, such as Puget Sound, early marine survival of salmon continues to be extremely low in the face of potential near-historic low returns this year and perhaps next year, increasing concerns about the recovery of the Southern Resident killer whales and their interaction with their prey (salmon); the recognized need to build resilience requires an ecosystem approach. These regional challenges, along with the agency priorities and the program review recommendations mentioned above, guide the selection of our FY17 NWFSC priorities.

Budget Outlook – Agency and NWFSC

Current Budget (FY16)

The Center's budget, including permanent NOAA Fisheries, temporary NOAA Fisheries, and reimbursable funding, has hovered around $80M for the last few years, and our funding levels in FY16 were similar to those of FY15. We continue to receive a portion of the cost-recovery fees collected as part of the West Coast Catch Share Program, which are strictly dedicated to activities supporting the catch share program. The level of reimbursable funds in FY16 was also comparable to the previous year.

NWFSC Permanent (Base), Temporary Base, and Reimbursable Funds FY11–FY16



Federal allocations are provided to the Center through specific PPA (Programs, Projects, and Activities) categories, or budget lines. We may only use the funds in any given PPA for the purpose(s) described by that PPA. From these funds, we support our research and monitoring activities. Research-enabling services such as Center management, facilities, and administration are paid for through the internal

fund. The internal fund is generated from permanent NOAA Fisheries funds, excluding temporary funds, and consisted of about 16% of each permanent PPA in FY16.

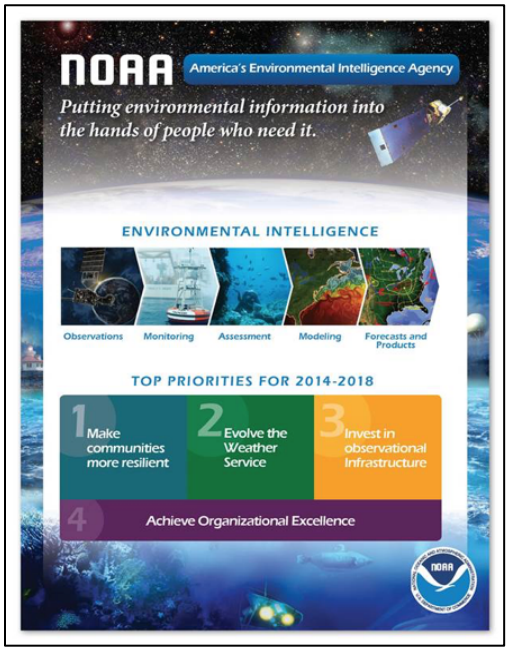
In FY16, Congress changed the NOAA Fisheries budget structure to significantly reduce the number of PPAs. The new structure, which will be implemented in 2017, provides more flexibility to meet our mandates and mission and to be able to quickly adjust to changing circumstances, particularly at the national level. While this change allows a modest increase in discretion in the allocation of funds, the agency will continue to monitor spending according to the previous budget structure during the transition. The new structure has minimal impact on our NWFSC budget, as our funding streams remain largely unchanged. For example, there continues to be a Pacific Salmon PPA, a major budget line for the Center.

Select Budget Lines for FY16 NWFSC Federal Budget Allocation

Program, Project, and Activities Budget Line (PPA)	**FY16 (Final Allocation)**
Salmon	$10,404,296
Fisheries Research and Management	$6,750,908
West Coast Groundfish	$5,819,727
Expand Annual Stock Assessments	$5,769,420
Observers	$4,820,537
Product Quality and Safety	$1,438,101
Economics and Social Sciences Research	$1,048,356
Aquaculture	$887,835
Southern Resident Killer Whales	$840,387
Habitat	$306,404

Notes: 1) Not all PPAs are listed. 2) These are the funding by PPA as received by NWFSC, and do not reflect contributions to the internal fund. 3) This table does not include any temporary funds.

Next Year's Budget (FY17)



As has been the situation at the onset of the past few fiscal years, our FY17 budget is uncertain and will remain so until there is a resolution by Congress—either a passed budget, or a year-long Continuing Resolution (CR). Election years such as this create additional uncertainty, as the Executive Branch and new Congressional partisan leadership is unknown. Nevertheless, an early step in the FY17 appropriation process, the release of the President's FY17 budget request in early 2016, provides insight into the outgoing Administration's budget priorities and possible outcomes. This year, the request reflects the importance for NOAA Fisheries to continue to improve our stock assessment capabilities and to implement electronic reporting and electronic monitoring in managed fisheries. For the West Coast, the President's Budget increases include funding for next-generation stock assessments and to further electronic reporting/monitoring in the catch share fisheries. The President's request also includes a modest increase for Pacific salmon and aquaculture funding, and initial design build funding for a replacement laboratory at Mukilteo.

FY17 Priorities

We will continue to have two categories of priorities: Focus Areas and Core Research Areas.

Focus Areas are high-priority strategic efforts that look to the future. They are cross-divisional and have been selected based on stated priorities of NOAA and our customers, an assessment of the political landscape in the region, and prime opportunities for budget growth in the near term. In FY17, we will build on or continue several of the activities initiated in FY16.

Core Research Areas are our ongoing activities that we must fund to accomplish our core responsibilities under the Magnuson–Stevens Act, the Endangered Species Act, and the Marine Mammal Protection Act.

Focus Areas:

Review of FY16 Focus Areas

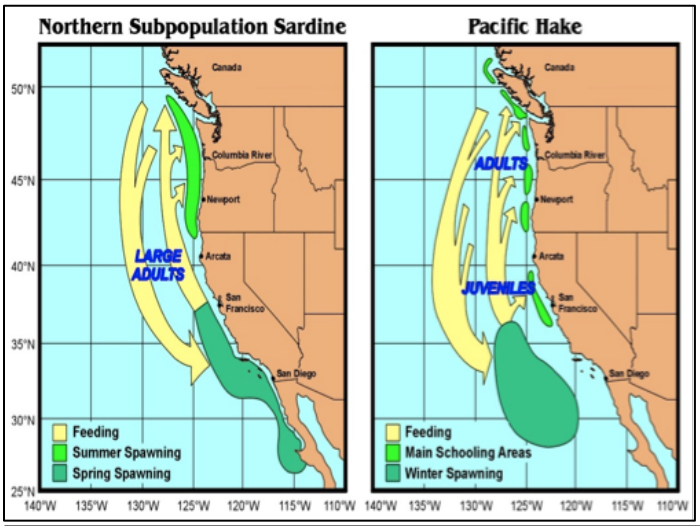
Last fiscal year, we identified five focus areas: California Current Ecosystem Monitoring – Ocean Conditions, Newport Line, Western Regional Action Plan for Climate Science, West Coast Salmon Recovery, and Aquaculture Science. It is important to assess progress.

California Current Ecosystem Monitoring

In FY16, the "ridiculously resilient ridge" dissipated, in part due to the onset of a large El Niño. Center staff across a range of science disciplines worked diligently and creatively to sustain or augment surveys to increase the amount of data collected at this time of much variability and change. This included the deployment of the Environmental Sample Processor on a buoy off the Washington coast, providing near-real time data on Hazardous Algal Bloom species and associated toxins.

Newport Line

The sampling along the Newport, OR, hydrographic line provided important clues and insight on the evolution of the biological response to the anomalously warm NE Pacific Ocean and the effects of the subsequent El Niño. We will be supporting the sampling effort, on an annual basis, at a level to sustain the monitoring.



The lipid content of the food chain is the key variable to monitor to understand the health of the California Current ecosystem, because sardines and hake migrate to the area off Oregon, Washington, and British Columbia, and salmon migrate to the ocean at the same time, to take advantage of this rich food source. Graphic: Bill Peterson, NWFSC.

Western Regional Action Plan

The NOAA Fisheries National Science Climate Strategy was released in 2015, and called for regions to develop regional action plans. On the West Coast, we have developed a draft plan with the Southwest Fisheries Science Center (SWFSC) and the West Coast Region (WCR). During public review, we received several comments supporting the need for such a plan and heard that the draft plan struck the right balance on expectations for climate-related activities while meeting core needs for fisheries management and recovery of protected species, given the current budget constraints. By the start of FY17, revisions to the draft will be complete and the final plan will have been submitted to NMFS leadership and released publicly.

West Coast Salmon Recovery

We continue to provide broad technical support to the West Coast Region for recovery actions and key Section 7 Consultations while providing ongoing science—for example, on restoration effectiveness. For the first time, Center scientists showed that using beavers as "restoration engineers" leads to positive population level responses, at times at a fraction of the cost of restoration without beavers. In addition, in Puget Sound, acoustic telemetry-based studies are providing insights into the source and magnitude of significant predation mortality on out-migrant steelhead.

Aquaculture Science

Results from research on sablefish have provided the confidence to move forward with production-scale testing for commercial grow-out. In addition, research on sablefish genetics to identify subpopulations with high growth rates showed markedly low genetic variation coastwide from Alaska to California. This finding supports the need and value of conducting a single coastwide stock assessment, which is in the planning phase. Thus, the research benefited both the aquaculture program and fishery management.

Focus Areas for FY17

In FY17, we will devote strategic effort to the areas identified below, which are a combination of continuing focus areas from last year and new focus areas. Many of our FY16 focus areas either require or will benefit from close coordination with SWFSC to meet the science and management needs of WCR. These efforts aim to position the West Coast to compete successfully for research funding from headquarters and external partners.

Leadership Transition

FY17 will be a period of transition and change at multiple levels of leadership affecting the Center. Beginning in January 2017, there will be a transition to a new Center Director and a new U.S. President and Administration. The West Coast Region gained a new Regional Administrator in September 2016. A transition plan to a new Center Director will be completed in early FY17, and the Center will support transition activities for incoming political leadership in early 2018. The new Director will need to lead the Center in a revision of our 5-Year Strategic Science Plan, which expires in 2018. As recommended by the ecosystem science review panel and in preparation for a new Center Strategic Plan, we will develop an ecosystem science strategic plan to be completed by March 2017. Using ecosystem science to initiate the strategic planning process aligns with the increased focus by the agency on ecosystem-based fisheries management and more broadly on ecosystem-based management.

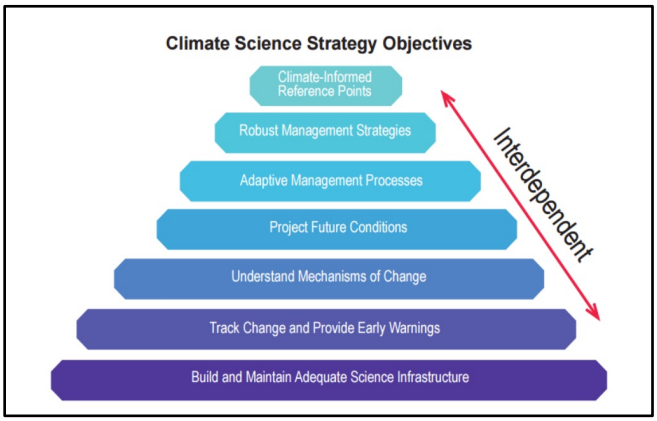
California Current Ecosystem Monitoring – Ocean Conditions

El Niño/Southern Oscillation (ENSO) forecast models were indicating that there was a 55–60% probability for a La Niña starting in the fall/winter 2016–2017. The forecast is now for neutral

conditions, a "La Nada"—clearly, there is uncertainty. Ocean temperatures at depth in northeast Pacific and in the Gulf of Alaska continued to be exceptionally warm. How the remnants of "the blob" and La Niña will interact is not certain. It is likely that we will continue to see high variability in ocean conditions, which, when coupled with high variability in biological responses, drive the need for a focus on enhanced monitoring. Building upon past work, we will coordinate coastwide and across NOAA to leverage our existing surveys and data sources to maximize the collection of relevant physical and biological data to assess effects on the biological community and fishery resources. We will develop a long-term plan for sustained support of the Newport Hydrographic Line to make it a core observing platform for NOAA Fisheries, as well as review all our observational surveys to ensure we are collecting the right suite of data and maintaining essential time series for assessing climate variability and change at the level of ecosystems.

Western Regional Action Plan on Climate

NOAA Fisheries' National Climate Science Strategy is in place, and we will have a final Western Region Action Plan for Climate Science (WRAP) by early FY17. In FY17, we will focus on completing the climate vulnerability assessment, establishing the West Coast Climate Committee, and aligning the WRAP with current Integrated Ecosystem Assessment (IEA) activities.



NWFSC and SWFSC released a draft Western Region Action Plan for Climate Science in 2016, in support of the national NMFS Climate Science Plan.

Salmon Recovery – FCRPS Biological Opinion

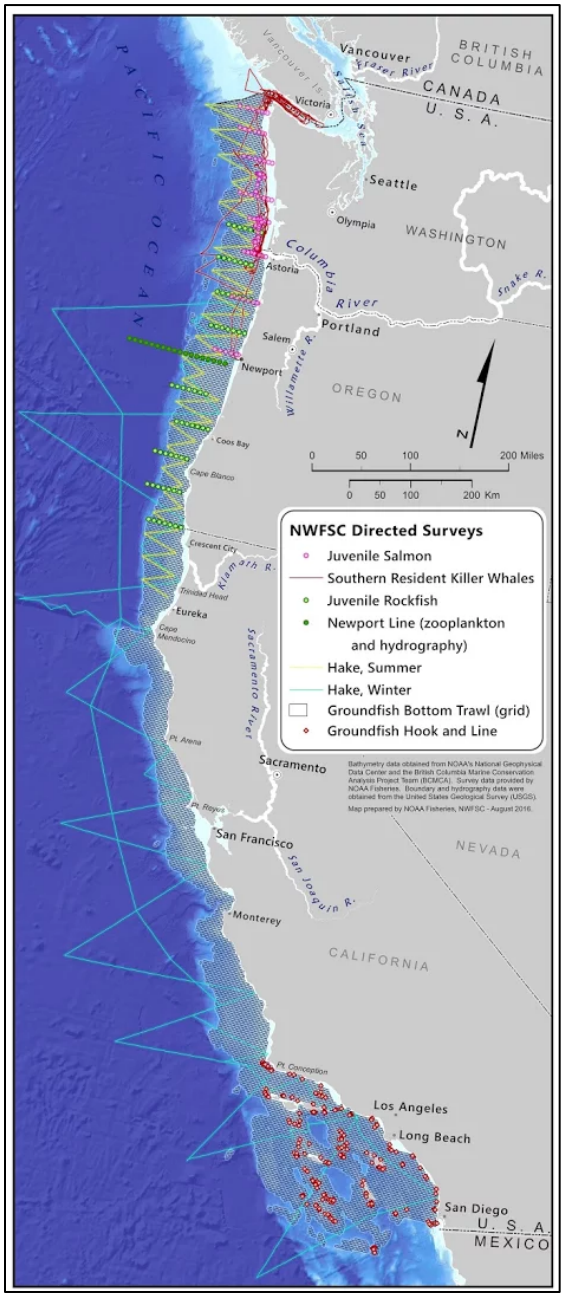
The drought in the Pacific Northwest in 2015, and continued anomalous ocean conditions in 2016, sustain concern for survival of out-migrating juvenile salmon and the critical need for broad and effective science support for Pacific salmon management on the West Coast. The recent decision by the 9th Circuit Court on the Federal Columbia River Power System (FCRPS) biological opinion will very likely lead to changes in the type and scope of science products needed to address the Court's opinion. Close coordination and collaboration with WCR and SWFSC will be needed in FY17 on the FCRPS biological opinion and on other consultations, as the ruling has broader implications for salmon recovery efforts. Through the West Coast Climate Committee, established under the WRAP to increase coordination, we will explore how recovery objectives should be revised to include climate projections.

Integrated Ecosystem Assessment

The IEA framework and process is foundational to the WRAP and protected species conservation, providing the science for implementing ecosystem-based fisheries and conservation management. In FY17, we will take steps to transition the IEA program into the framework and process of how we do our science across all mission areas. A new IEA application is a high priority need of WCR for science advice on the recent increase in whale entanglements with fishing gear, including possible mitigation measures and whether this may be a temporary or long-term concern. In collaboration with the Alaska Fisheries Science Center and Canadian colleagues, we will complete the initial phase of the sablefish management strategy evaluation, which includes environmental variables for explaining recruitment, and the coastwide sablefish stock assessment. We will also continue to address recommendations from the Pacific Fishery Management Council (PFMC) to further develop ecosystem indicators and ecosystem risk assessment.

Internal Grants Program

Fostering innovation in the science and research we do is essential. Last year, we were able to reinitiate the Center's Internal Grants Program to foster innovative cross-divisional collaborative research as well as research by individual scientists. In FY16, we published a review of the program which found that a total investment of $2.4M over 10 years resulted in more than $21M in new funding. In FY17, we will support our Internal Grants Program at a level of at least $100K, and share this success with other NOAA offices.



NWFSC completed eight annual research surveys in 2016, focusing on environmental conditions, population status, and trends of groundfish, salmon, hydrography, plankton, and killer whales. Map Credit: Damon Holzer, NWFSC.

Core Research Areas:

The following activities are the highest funding priorities for NWFSC in FY17, and must be properly supported to meet national and regional needs. In some cases, accomplishing these activities will require effort to secure needed resources; in others, a change in how we do business. Carrying out these responsibilities may include reducing or recalibrating the level of effort we can devote to an activity given current budget realities and circumstances that have hindered the effective use of NOAA ship time. Exclusion from this list does not mean an activity will not be funded; rather, this list includes the highest priorities and is not in rank order.

- ✓ We must fully staff all high-priority West Coast surveys for fish and Southern Resident killer whales. In some cases, our ability to staff surveys has been a limiting factor for completing the work. We will evaluate all surveys and ensure that the highest-priority surveys have necessary operational funding.
- ✓ Increasing management strategy evaluation (MSE) capacity is a priority for NOAA Fisheries. Due to recent departures, we will backfill a position to bring our strong MSE-related capabilities back to levels present in early FY16.
- ✓ We will support the PFMC by conducting full stock assessments for yelloweye, yellowtail, blue and deacon rockfish, and lingcod, and updating assessments for bocaccio, darkblotched and blackgill rockfish, and arrowtooth flounder. A catch report will also be prepared for cowcod south of lat 40°10´N. We will continue technical support for the U.S.–Canada whiting treaty economic data collection for the catch share program, and support for the 5-year review of the catch share program.
- ✓ We will participate in regional and national efforts to implement electronic reporting (ER) and electronic monitoring (EM) for augmenting fishery monitoring. An ER/EM program that maintains biological sampling requirements is under development through the PFMC. We will continue to work cooperatively with WCR and the Pacific States Marine Fisheries Commission in support of the Council initiative, as well as conduct our research on enhanced electronic reporting.
- ✓ NWFSC was given the responsibility to lead a national marine forensics program. In FY17, we will develop a strategic plan to guide national marine forensics activities and complete a budget agreement with the Office of Law Enforcement to support the marine forensics needs of the agency.
- ✓ We will provide biological, social, and economic science to support the recovery of listed species, including Pacific salmon, Southern Resident killer whales, Puget Sound rockfish, green sturgeon, and Pacific eulachon. We will continue studies to assess sources and magnitude of early marine mortality of steelhead and Chinook in Puget Sound, telemetry studies of green sturgeon

movement and habitat use, and predator–prey relationships for Southern Resident killer whales and salmon.

Organizational Excellence

High-quality science requires high-quality administrative and operational support systems. In FY17, we will focus on improving organization excellence in three areas: 1) facilities and infrastructure, 2) aligning our workforce with our budget and research priorities, and 3) implementing a science planning process through the Annual Project Planning Database.

Facilities and Infrastructure

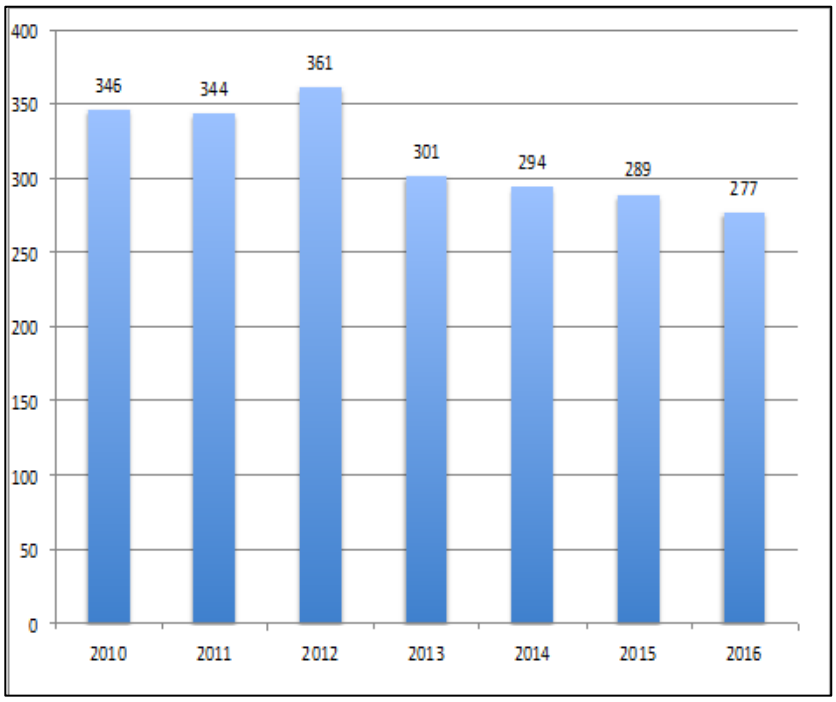
In FY17, we will conduct the following activities to ensure a quality working environment and infrastructure to support delivery of science products.

- ✓ Continue efforts to replace facilities at Mukilteo to provide staff with the infrastructure needed to carry out state-of-the-art science.
- ✓ By the end of the first quarter of FY17, we will work to reach agreement with the Washington Department of Transportation on mitigation needed for NWFSC as a result of the proposed rebuilding of SR 520.
- ✓ In 2016, we accomplished two major milestones related to the Administration's Public Access to Research Results (PARR) Initiative: the publication of all Division Data Management Plans, and 100% completion of discovery-level metadata for all active research projects. In 2017, we will continue to implement PARR by following the schedule outlined in the new NMFS PARR Implementation Plan. This includes maintaining 100% completion of discovery-level metadata in all continuing and new projects, and ensuring that at least 30% of our data sets are discoverable (i.e., publicly accessible in a machine-readable format) by 1 March 2017.

Aligning Our Workforce and Our Research Priorities

The NOAA Fisheries Deputy Assistant Administrator must approve all proposed new hiring actions through development of an annual staffing plan. For NWFSC, the reduced budget in FY12 and FY13, very modest adjustments in FY14, and a nearly flat budget in FY15 through FY17 means that we will need strict control of labor costs to have the necessary level of operational funds to execute our research priorities. The annual increase in salary costs (about 3%) due to the Commerce Alternative Personnel System (CAPS) and the impact of non-labor cost inflation continues to put pressure on the availability of operational funds. To maintain operational funds, we have had to reduce Center staffing by 84 full time equivalent (FTE) positions, a 23% decline since peak staffing in FY12.

Number of NWFSC Staff, FY10–FY16



In contrast, the size of the NOAA Fisheries workforce has declined by 10% in recent years. In FY17, we will again work to have no net increase in labor cost for permanent staff. This means that we will not be able to replace staff at the same rate as attrition, and we will need to address the increase in labor costs from CAPS.

Given this budget reality, we will use the following strategies to manage our workforce and align our human capital to meet our mission and core research activities:

- ✓ Continue to fill labor shortfalls through noncompetitive reassignments wherever possible. Only mission-critical hires will be filled by candidates external to the Center. The implementation of our science plan and corresponding workforce management plan will be the basis to provide context and incentive for workforce realignment.
- ✓ No net increase in labor costs for permanent staff during FY17.
- ✓ Conduct a review of the Divisional staffing plans. As needed, adjust divisional organizational charts to reflect an assumption of no future budget increases and an accompanying change in mission scope. The planning horizon will be FY18.
- ✓ Update our Human Capital Investment Plan in response to staff morale concerns identified in the recent agency-wide survey, and reinvent the Human Resource Management Team to address work-life issues and staff morale.

- ✓ Implement the NOAA Fisheries Diversity and Inclusion Plan to be a vibrant and productive workforce by educating staff, enhancing outreach, and improving our work environment relative to diversity and inclusion.

Annual Science Plan Implementation Process – The Future

We will position the Center to be forward-looking and take an approach to science and research activities that meets regional and national needs, maintains necessary infrastructure and support services, and aligns our workforce capabilities with core and high-priority mission areas. Our implementation process is evolving and will mature over time. The goal is to conduct programmatic planning that is more transparent to staff, agency leadership, and constituents. The planning process will be effective if we can clearly track and explain how we arrived at our priorities for activities that fall within the broader priorities described in this AGM.

We have redesigned the Annual Project Planning Database to assess research activities across the Center and initiate research prioritization. The Alaska and Southwest Fisheries Science Centers are also using this tool, allowing us to coordinate with these close partners. The goal is to develop detailed Project Plans that include activities, timelines, budget, staffing, and products. We will use the following criteria to rank projects in FY17:

- Would other organizations conduct this activity if the NWFSC did not?
- Is this activity essential to achieve strategic plan goals and objectives?
- How significantly will the products of this activity inform management?
- Is the activity one of the focus areas in the current Annual Guidance Memorandum?
- Is the research and science of high quality?

Working with the Division Directors, we will continue to make the following improvements to the process in FY17:

- ✓ We will enhance the utility of the Project Tracking Database by improving connections between staff, budgets, and Project Plans, and generating better information about future staffing needs and training.
- ✓ We are due for an update to our 5-year strategic plan and will engage the new Center Director on scope and timing.
- ✓ We will track implementation of recommendations from the fishery stock assessment data and process peer reviews and protected species reviews, with the goal of closing out on the recommendations from the fishery stock assessment data review. We will also begin work on implementing recommendations of the protected resources program reviews.

- ✓ Following increased emphasis on the use of the NOAA Fisheries Electronic Annual Operation Plan (eAOP) system for development of the NOAA Fisheries Annual Implementation Plan, we will begin to incorporate milestones and products from Project Plans into the eAOP system and institute more formal tracking of milestones with assignment to Divisions at the level of Programs.